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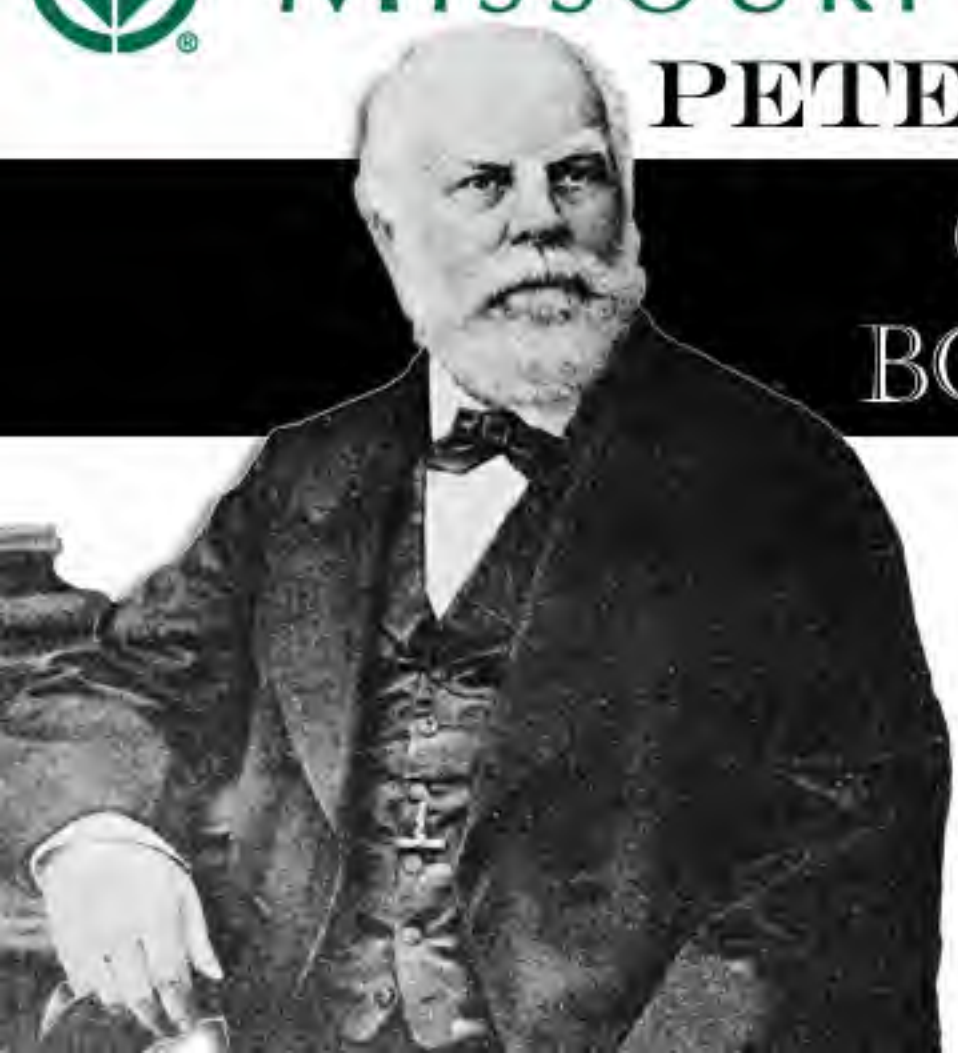

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Prunus Hookeri —

Coll. by S. Watson

Aug 22 1873

Specimen named and known as this

genus. d'Urville. —

A. Oregonensis Nutt

A. Americana Nutt

A. Nevadensis a sp.

A. virginiana Ell. Also Mex to Calif

A robusta a sp. (Pondosa)

A. obicularis a sp

A. orbiculata a sp

Apparently Rich

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St. Louis, April 5 1872

To Dr. Geo. Engelmann

Sir,

We respectfully ask your attention to "Pre-Historic Times"

by Sir John Lubbock

just published in 1 Vol

Price $ 5.00

Very Truly,

ST. LOUIS BOOK & NEWS CO.

307 North Fourth St.,

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Rec'd Sept 18
Ans Sept 19th

System

BOTANIC GARDEN, CAMBRIDGE, MASS.

Sept. 15 1873

Dear Dr. Engelmann,

I am much obliged for your notes on Arcuthobia, in letter of 22 Sept., to which I have added by overhauling all letters to Dr. Gray, contents of which he had probably forgotten.

I took up the California species again this morning and have come to the following results — in short.

* Male fls. mostly terminal and nearly globose, calyx-lobes very nearly equal.

1. A. Americanum.

** Male fls. spicate, much compressed, the lateral (or superior) lobes longest & caliculate.

2. A. divaricatum. Rather slender; spikes slender; male spikes not imbricated, 2-4-jointed, the scales short and the fls (½" long) much shorter than the joints; pistillate spikes 2-10-jointed, teeth shorter than stigmas; fruit not seen. — On p. 8 this is.

California — Bigelow ♀
Utah — Wheeler ♂ (A. Americanum, Eng. MS. !)
N. Mexico — 282 Fendler ♂

3. A. vaginatum. Rather stout; male spikes not closely imbricated, short-jointed, 6-10" long and 6-10-jointed, or smaller; fls 1" long, exceeding the scales; pistillate

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Belongs to No. 4.
a. robustum.

spikes 2-7-jointed, the teeth usually equaling or exceeding the stigma; ~~[illegible]~~ fruit ~~[illegible]~~ 1½" long, ~~on short peduncles~~.

On P. ponderosa – Oregon, 577 Geyer ♀; Nuttall ♀ (= A. Amer. in h. Gray.
California, ? Douglas ♀; 6340 Bol. ♀; Canby ♀
Gray ♂
Nevada, 126 Anderson ♀
N. Mexico, 283 Fendler ♀
On P. insignis – 1764 Hartweg ♀; 700 Brewer ♀ ♂
On P. Sabiniana – 582 Brewer ♀ ♂

California – On P. Sabiniana, 2671 Bol. ♂
On Juniperus occid.s – 2055 Brewer ♀ ♂
Oregon – On Abies grandis, 457, 457c Hall ♀ ♂

4. A. robustum (or obscurum). Stout, staminate spikes thick, the scales closely imbricated and enclosing the flowers, 4–10-jointed, 5" long or less; pistillate fls. nearly as in the last – in fruit 2-2½" long.

Hab. – See above.

That is the most that I can make of them with the material at hand. If you can spare the time I hope you will take them up and do better. But Prof. Brewer is expecting, or hoping at least, that you will finish up the Conifers – and if that be done, no matter who becomes of all this small fry.

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Mrs. Gray's domestic arrangements being disturbed by the loss of her cook, the Dr. is planning today to take his promised two weeks vacation at once, and the two will probably be gone by tomorrow. It will do him good. He has been hard at work of late upon the Calif[a]. Composites.

Yours very truly

Asa Gray

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4 Mexico, · Arctostaphylos — Mother plant not known

Coulter N.P. 17. Real del Monte.

Liaden 540 Orizaba

Andrieux 349. San Felipe

Seemann 2138 Sierra Madre N.W. Mexico (Th. Bq. a distinct species allied to P. pond. ?. 104

Arnuleo C/L Coffre de Perote

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Comm. 8° 1878

Systema Araeothobiorum

I Gnetiora flavo-virescentia

a. flores masculi omnes terminales ramuli novelli stipsim fructiferarum squamigeri, anno sequente florendi (gemmae accessoriae foliiferae)

A. Oxycedri

b. flores masculi terminales lateralesque ramuli novelli stipsim fructiferum florigeri

A. Americanum
A. Concoloris
A. Douglasii
A. microcarpum (Engelm.)

II Robustiora olivaceo-fuscescentia

a. ramuli novelli stipsim fructiferarum squamigeri, anno sequente florendi (gemmae accessoriae floriferae)

A. divaricatum
A. robustum
A. Occidentale
A. vaginatum

b. pusillum, stipes fructiferi nisi gemmae accessoriae proferentes nullae

A. pusillum

III Crassum, virescens, verisimiliter flore ceterum ignotum

A. crassum.

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DR. GEO. J. ENGELMAN,

Office, 203 S. Fifth Street, Residence, 3003 Locust Street.

9sel

Arcuthobium ♀ +

While the fruit is maturing
in the fall

1. the fruit bearing plants bear
also leafy branches which prepare
to flower in the following season

divaricatum
californicum
robustum
Oxycedri
Abietinum
Douglasii

2 or they bear flowering branches
which will bear fruit following season

concoloris
~~Abietinum~~
Americanum
Douglasii
Cyclocarpum

3 or both difficult to ascertain — but it seems to be the case in Abietinum and
californicum — if dead is seen, are not
abortive fruits or non developed flowers

4 or none A. pusillum

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1, Leafbuds in axils below fruiting branches or fruits
divisions robustum, occidentale

2, flowerbuds in axils below fruiting branches or fruits
concolonis, strobiorum

3, No secondary branches in axils of fruiting spurs
Douglasii ? (or = 2 ?)

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Does

ALEX. LEITCH,

APOTHECARY & PHARMACEUTIST,

Marble Building Cor. Fourth & Olive Sts. St. Louis, Mo.

or perhaps better:

1. Axes of male plants definite terminating with a flower.

no axillary flowers — Oxycoccus

axillary fl. rare — Arctostaphylos

axillary fl. rare or common or terminal only — Andromeda

axillary flowers in spikes terminated by the terminal fl. — Cassiope

2. Axes of female plants indefinite never terminated by a flower all flowers axillary

flowers solitary or a secondary fl. behind the primary — Cryptopod

flowers several (3) side by side — triflorum

Arctostaphylos Nov 18 1871

I Male flowers all or almost all terminal
on branchlets with at least one pair of leaves

A. Oxyodon Dick only terminal ♂

A. Andersonii Nutt principally terminal, occasionally
also axillary ♂

A. mewukka Lg. terminal flowers — axillary almost as
common

II Male flowers principally axillary, terminal
flowers few or none

a. terminal flowers few but constant

A. Campylopoda Lag. (On Juniper 2055?)
On A. Sabiniana 2671

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b. terminal flowers none at least so far as
seen in specimens.

A. Cryptopoda Lg. (On Pickeringia 700)

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A. tomentosa Lg (Lemmon)

over

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Dec 27 1871

Arenthobium

I Flores terminales primarii

1, sine lateralibus A. Oxycedri

2 lateralibus accessoriis paucis s. nullis A. Americanum

Douglasii A. verticillatum

II Flores laterales primarii pleurini spicam simplicem vel compositam efformantes, terminales secundarii vel nulli.

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so far as I can learn, ~~upon~~ ever experienced so early in the season. This remarkable storm did much pecuniary damage in the destruction of Lepas called which were in Kansas to be wintered; and the repute of our Kansas climate is likely to suffer from it. In a paper read before the Kansas Horticultural Society on Wednesday, I took the position that the November storm was exceptional, and cited numerous instances (from Blodgett) of extreme depressions of temperature in other parts of the Union to show that all such extremes, while possible in any season, are yet "absolutely non-periodic", and may not occur except at long intervals. If you remember any similar case of severe re-

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Zabel 1878

		Time of flowering		Maturity	
Arcuthobium	Oxycedri	autum	Sept	R. Brown!	Oct & Nov A. de Tom
Viscum	album	vern	Apl	Mary Hollington!	Sept Hollington Peck
Arceuthobium	aestivale	aest	Sept or Oct? Parry ad aut. Sept ? Bolander 5095 vern? July Wooton Rio Penasco Parry!		Aug Sept Engelm " Parry
	divaricatum	aut	Sept Gilbert!		Octob Gilbert
	minutissimum Engelm	aut	Sept or Oct. Gilbert		
	interruptum (Douglasii)	aut	Sept ? Gilbert or Oct?		Sept Gilbert
	(Coloradense)	~~vern~~? aut.	~~Spring Parry~~ Octob Lemmon!		Sept or ~~Oct~~, Parry
	robustum	aestiv	Greene Greene! " Parry! " Brandegee! July Parry!		Sept Parry Aug Engelm! Aug Gray
	Californicum mortengense	aut.	Septbr Canfield! Aug Oct Jniper Col. Short Parry 2055! Oct? Bolander Siskiyou 2671		Octob ?
	vaginatum mex	vern? aut? autumn	Spring Humboldt's specimen. or Summer spec in Febr much more developed than March specimen of Parkes robustum		Febr Fitch (immature) Humboldt perhaps Aug Autumn
	Abietinum.	aut.	Octob? Hall		Sept. Oct Hall

Douglasii Coloradense Californicum ??

vaginatum

vertivilliflorum

Vernal flowering mature fruit in 17-18 months
Autumnal " aestivat " 12-14 months ?
" 16- months

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Rec Febr 20th
Ans Febr 22

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New York State Museum of Natural History,

Albany, Feb. 18th 1878

My Dear Sir;

The pamphlets are received. I am very thankful for them and shall read them with much interest.

The first account I gave of Arcuthobium pusillum is in Transactions of the Albany Institute Vol. 8 p. 191 (1872) but is in popular style. The more systematic description and doubtless the one to which reference should be made is in the Twenty-fifth Report of N. Y. Mus. Nat. Hist. p. 69. I had the impression that this had been sent to you but find no record of the sending of it or of the Twenty-sixth, both of which I now mail to you.

Very truly Yours
Chas. H. Peck.

Mark Flora - Burlington Vt. - Ontario - Flora - Plants - Gray, Asa - Fuller, Sereno Watson - Botany and Botanists - Correspondence

Measurements

Arctostaphylos divaricata 2-[illegible] inches Light 1 Lin, dent

— — vestita 2-3 " " (branchlets) 4-5 " "

— — Hookeri 1-3 ½-¾ " "

— — obispoana 2-4 " " 2-2½ " "

— — Manzanita 2 " ¾-1 " "

— — Hookeri 1 ½ " "

— — Manzanita 3-4 1½ " "

— — — Parryana 1-2 ½ " "

— — pungens 1/4-3/4 (rarely 1½ inches) ½ " "

— — Stanfordiana Columbiana 1-3-4 (rarely 2) ½-1
" 2½-2 " 1

— — robustaensis 2-4½ makes smaller 2-2½

— — Californica 2-5 1½-2½
Sabina 2-3 1½ = Sepals not yet in bloom

— — virgatum 12 inches for HDK. 2-5 (Lieb. sp.)

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QUARTETTE.

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1. Balcony Scene from "Romeo and Juliet"..... *Shakespeare.*

2. The Famine..... *Longfellow.*

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3. Pyrannes and Thisbie..... *Saxe.*

LE PRE AUX CLERCS..... *Abt.*

Miss CORA CARPENTER.

ACCOMPANIED..... { Mr. WALDAUER, Violin. / Mr. ERNISTOFF, Piano.

4. The Shadow of Doom (by requst)..... *Celia Thaxter.*

5. Jamie Butler.....

THE ALPINE ROSE..... *Sieber.*

Miss ADA CLEGG.

6. The Bells..... *Poe.*

RECITATION—By W. FULTON MILLER.

7. Charlie Machree..... *Toppan.*

QUARTETTE.

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8. The Maniac..... *Lewis.*

Feb. 1877

Arceuthobium

Growth, creeping along — breaking out at end of annual growth

(Aurium. Abietina etc.) mostly.

or, rarely, all over the joint ? pusillum, Douglasii

Some disappear after flowering (mostly ? pusillum) — but usually a

thorny remarks and perhaps only a scar for many

years (? Abietina I have seen it about 40 years); and

probably much longer, while the stems after a few years die off.

These never last more than probably 5–8 years, and

under two than 3 years (mostly) or 4 years (Abietina)

the former dying after fl. the latter after fruiting stock

The stolons creep and feed in the bark

do (not ? penetrate) to the wood, as Rhinanthus & Viscum do

Sometimes plant is fixed to older parts of

branches, and from one cause or other does not

creep up the growing, younger, branches.

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September Specimen as seen ÷ Colorado Sept 1874

A. Americana

♂ fl. buds ♂ flower buds ♂ fl. buds ♂ fl. buds ♀ fl. buds ♀ fl. buds ♀ fl. buds ♀ fl. buds

first buds appear ÷ Sept. appear within the buds only

♀ fruit ♀ fruit ♀ fruit

after a branch or internode is 2 years or rather 1½ years old, the first sign of the parasite appears — with a year later flowers

trunks over 100 years old bear — the bark the parasite (old or young seedlings?)

all plants within the buds scales at the end of the years growth,

A. pusillum ÷ Sept

♀ pare — only for females — for females — females maturing — males have disappeared — fl. buds for next year — first budding

A. Douglasii (Silver) probable

♀ fruit — first buds

A. bud of robustum Aug 15 1874 ??

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mark 7th 78

Growth of Arcuthobi—

while the fruit is maturing in A. occidentale during summer
the lower part of the stem makes new
buds, which grow by fall (maturity of fruit)
to cylindr. jointed branchlet with many
short joints, which will bear flowers
in the following and fruit in the 3d year after
Question? whether ever flowers
appear in the 2d year.

Yes — this seems to be the regular
growth of the A. Abietinum from Oregon.
where in the axils of the 2 below at
tached the fruitbearing branches as described
above, producing flowering branches apex

Also in A. Americanum, where the lateral
branches of a fruit bearing vertical are apt to
bear flowers

also in Lemmons A. Campylopodis
Caution not to take small undeveloped
or abortive fruit for flowers (or lateral
branches as fruit) — or are they flowers?!

Brandegee's observation from S.W. Colorado
Aug 1875 shows that

the terminal flower opens first, and then
the lateral ones from below upwards.

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HERBARIUM OF HARVARD UNIVERSITY,

BOTANIC GARDEN, CAMBRIDGE, MASS.

Jan 27th 1878

Dear Dr. Engelmann

Dr. Rothrock asks for you for specimens of the so-called Eupt. canadensis, of montanum, of abies grandis of concolor, of Menziesii collections, 1871. I enclose sufficient of the first (= lower branch + a ray, or of 5), which is not in flower or fruit but pretty evidently E. campestris (= canadensis.) I find no specimens of the others & they were probably scanty and all returned to Lieut. Wheeler at Washington.

He also queries the Erythraea triacantha, which is of course a misprint for trichantha, an omission of my own.

Yours very truly
Asa Gray

1049 — 37 — 1088

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July 1872

Arctostaphylos Manzanita Colorado, Pony

youngest flowering plants seen on
Points of Rhus Coriaria ~~of~~ 1870 now 2¼ years old

A. pusillum or Abies nigra of 1869 now 3¼ "

A ponderosae or Pinus ponderosa of 1868 now 4¼ "

young buds of Arctostaphylos always a year in advance — or 1¼ - 2¼ or 3¼ year old shoot — or in early spring on 1. 2. 3 year old

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Youngest Arcuthobium buds
in Summer 1872 seen

A pusillum. along growth of 1870
will flower in Spring 1873, on fully 3 year old growth

A. Americanum at base of growth of 1871
flower in Summer 1873? on 2½ year old growth

A. pouderosae along growth of 1869
flowers in May 1873 — 4½ year old growth

CHAS. HABICHT & CO.,

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SOUTHERN HOTEL

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St. Louis, ... 187

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